APRIL 1969
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soil conservation

DEVOTED TO THE WISE USE OF LAND AND WATER RESOURCES

IMPROVING THE HUMAN ENVIRONMENT

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Conservation on federal land
The Navy's woodland

SOIL CONSERVATION SERVICE
U. S. DEPARTMENT OF AGRICULTURE

April 1969 Vol. 34, No. 9

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DEVOTED TO THE WISE USE OF LAND AND WATER RESOURCES

COVER: A combination of conservation treatments in the Central Georgia Soil Conservation District produced this pleasant rural scene. The pasture in the background was once a cottonfield; the pond is one of six on the farm.

The big picture . . .

Soil and water conservation plays many roles in America's efforts to reshape her total environment.

Leading off this issue, our new administrator gives us a carefully considered statement of his view of SCS's place in the environmental picture and suggests some needed action (p. 195).

While recognizing that change is a natural corollary of conservation, he makes the point that SCS from the beginning has been concerned with quality of environment.

Backing his testimony are a variety of success stories:

A town in Alabama's Wiregrass RC&D Project carves a new life for itself with local initiative (p. 203). A Texas community, impatient for watershed help, pays the planning cost itself and reaps flood protection (p. 210). Mississippi citizens make a bayou beautiful again (p. 208).

A suburban New Jersey homeowner turns from erosion grief and expense to a dream-home landscape (p. 197). And a naval base in the same state rebuilds a 3,500-acre woodland after 50 years of fire damage (p. 201).

In Montana, agencies team up to check conservation needs on private and federal rangeland to cut erosion and sediment pollution (p. 199).

There's action, too, on cherry orchards in Michigan (p. 209); attracting birds (p. 212); an agricultural hall of fame (p. 206); and a pond-side recreation area (p. 216).

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From the Administrator:

To be of greater service

In a program as successful as soil and water conservation, we are often tempted to justify our present existence in terms of past accomplishment. This is a temptation we must resist. The record of the past, however splendid, is never more than soothing sirup in a tiresome convention speech; it is worthless currency in meeting the environmental problems that beset us at the close of the sixties. What counts is the present and where present actions are leading us.

Another pitfall we must avoid is the limited view of conservation as preservation of the environment with a "Do Not Touch" sign pinned to it. Truly nothing can be preserved, in the sense of leaving it unchanged. Conservation is a dynamic process, a process that both uses resources and renews them, like life itself. The true conservationist does not fear change; rather he attempts to predict the effects of change and to make sure that the process of change includes renewal as well as consumption.

It is with this kind of conservation—a conservation of renewal—that the Soil Conservation Service is most familiar. We have learned how to stop serious erosion on cropland. We have reduced the sediment load in lakes, rivers, and reservoirs. We have learned to control floods in small watersheds. We have cut down on duststorms; we have improved the environment for fish and wildlife. We have guided millions of people to more intelligent, more profitable use of land. We are experienced conservationists.

We have emerged from the experience of the last 35 years with five important assets, assets that can be of even greater value to the American people in the years ahead.

The first of these assets, and perhaps the most significant, is the soil conservation district movement. This movement took SCS out of the "demonstration project" phase and placed the initiative and responsibility for directing conservation programs in the hands of local people. It provided our agency with the means of providing technical assistance directly to land users. It continues to be a source of strength and leadership for the conservation movement today.

The second of these assets is a body of technical information on soil and water conservation that is unsurpassed anywhere in the world. We have extensive information on the soils of the United States and their uses and limitations. We have information on plant materials, wildlife, flood prevention — information assembled through long experience and painstaking effort. And we have learned to apply that information as conservation practices.

Our third asset includes several excellent legislative authorities, passed by Congress after long and careful study and consultation with land users from many parts of the country. They include the small watershed program, with its unsurpassed record of success; the Great Plains Conservation Program, a bold venture in long-term, planned cost sharing for a single region; and Resource Conservation and Development projects, which are creating a new enthusiasm for long-range, multicounty planning among local people. These are legislative instruments of proved worth, instruments which can be used much more widely than they have been used before.

A fourth asset is the people who have become a part of soil and water conservation. They are conservation district officials and cooperating land users. They are our own SCS career conservationists, engineers, and soil scientists, who are second to none in training and experience in the techniques of our field. The ranks of our employees will have to be enlarged if we are to meet the demands of the present and future.

We have a fifth asset that is often overlooked. This is a realistic way of looking at the job of conservation. SCS is a conservation agency working with the people who own and control America's private land, which is, after all, more than three-fifths of the land in this country. If these private land users have been sold on conservation, it is because SCS technicians have been able to offer them sound, practical techniques for better land use. For our part, SCS has learned that if the soil and water conservation job is going to be done, it will be done by these private land users or not at all.

We also know that conservation costs money. While we have been reaping the benefits of an amazing technology, we also have been paying a price for this technology in the form of a fouled environment. We know that we must pay a price to renew this environment, a price that most of us failed to anticipate and many are slow to acknowledge.

These then are our assets: the district movement, a large and growing body of knowledge about conservation, legislative authority to apply that knowledge, both volunteer and professional workers, and a practical attitude toward our job.

These are powerful assets which can be of enormous service to the American people. There is today a new surge of interest among our citizens in cleaning up our environment and in improving the quality of life for all our people. It is our task now, as never before, to bring our unique assets to bear on the large resource problems that loom before us.

—We must help seek solutions to America's water problems. Our water is becoming increasingly polluted. We do not have enough water to meet our needs in some places; in others, we occasionally have too much.

—We must step up efforts to reduce erosion and sediment, particularly in such critical areas as developing suburbs, along streams and roads, and around strip mines.

—We must help more Americans, both urban and rural, to make use of the right land for the right purpose.

—We must extend the multiple benefits of the small watershed program to more communities.

—We must take leadership in creating more recreational opportunities for a growing population.

—We must help people, particularly in those rural areas which have not shared in the country's economic growth, to make better use of their natural resources to improve the quality of living. They need to find ways to use their resources to create more jobs, more income, and more community facilities, like schools, roads, hospitals.

—We must try to see America's resource problems, even as we chip away at parts of them, in the largest context possible.

The effort which is required of us will cost more money than is available to the soil and water conservation program today. It will require the services of more people than are employed by SCS today. It will take the voluntary efforts of more people than are active in the district movement today. It may require new legislation, and it will require additional nonfederal support.

But given the support we need, I have no doubt that we can continue to take leadership in a broad program of resource conservation. It is a task which we are uniquely equipped to handle. We can undertake it in a way, I am sure, which will strengthen the economy of rural America and make it a better place in which to live.

Kenneth E. Grant

Why couldn't we have known sooner?...

Backyard conservation turns eroded slope into beauty spot

"We spent 5 years and a thousand dollars trying to stop a backyard erosion problem. Then, with the help of the Northeast Jersey Soil Conservation District, we solved the problem with a few bags of seed, some lime, and some fertilizer."

Gazing proudly over her Oradell, N.J., lawn, Mrs. Morrel O. Jones went on: "I just wish every suburban housewife could be spared the grief and hard work my husband and I had after we bought our home in 1960."

She recalled that dreary morning 2 years ago as she sat alone staring through her picture window. Today, of all days, her husband would have to be traveling in Connecticut.

It comes tumbling down

Through the rain-streaked pane she could see 5 years of work tumble before her eyes. Rocks rolled down the 35-foot hill, bounding across the backyard toward the window of her Bergen County home. Her sturdy wild rose bushes slipped past the railroad ties that braced the base of the steep hill. Even the entangled honeysuckle vines gave way to the massive slide.

The New York City native could remember the happy day in 1960 when she and her husband moved to their own acre of land in Bergen County. Theirs was a beautiful brick home that sat on a hillside overlooking the Oradell meadows. Landscaping was the only thing needed for the final touch.

Visualizing a garden paradise, they eagerly and carefully set out all of the plants recommended by the landscape architects and "engineered" the hill as recommended.

When the 1961 spring thaw came they anticipated a green backdrop for their garden barbecues and outdoor parties. But as the rains continued, the new plants were uprooted. Once again, the sandy hillside was left naked.

Four years later as Mrs. Jones watched a similar onslaught, she made up her mind there would be a top-level breakfast conference with her husband.

After the lengthy breakfast session, Mr. Jones telephoned Rutgers State University in New Brunswick. On the University's recommendation, he visited the Bergen County agricultural agent. The agent, realizing the severity of the erosion problem, referred Mr. Jones to the Soil Conservation Service office in Morristown serving the Northeast Jersey Soil Conservation District.

The soil's the thing

It wasn't long after that when SCS Soil Conservationist Harold C. Waters parked in the driveway at 737 Hemlock Drive. He inspected the lot with Mrs. Jones and soon was explaining that the soil was sandy and, since it was located on a southern exposure, very droughty. He recommended two plants for the cure.

Weeping lovegrass, a plant native to Africa, should be seeded immediately to retard erosion. A European

Crownvetch and weeping lovegrass have healed the eroding backyard bank. Mrs. Morrel O. Jones and SCS Conservationist Harold C. Waters admire their handiwork.

A beauty spot now, the bank in 1966 (right) was a sorry backdrop for outdoor activities.

legume known as crownvetch should be seeded early in 1966.

The main idea behind the plan was to use a grass that would hold the bank until the aggressive crownvetch could take over. Lovegrass was selected for the job because it had proved to be more heat and drought resistant than most grasses.

To further assure results, Conservationist Waters recommended fertilizing and liming the bank. Five hundred pounds of 10-10-10 fertilizer, a must item, and 300 pounds of ground lime were to be scattered over the dry soil before the lovegrass was seeded that summer.

The next step was to mulch the bank with saltgrass hay from the Jersey coast. To hold it in place, binder twine was criss-crossed over the hay and fastened down with wooden pegs.

Mrs. Jones and Conservationist Waters study a clump of weeping lovegrass.

And then the wait

When the New Year arrived, time was right to overseed the bank with crownvetch. The seed was inoculated with nitrogen-fixing bacteria. After the seed had been mixed with two buckets of sand, it was sown over the bank. All that was left to do now was wait.

Spring came and nothing seemed to have happened. After a few weeks, Mrs. Jones could not stand the suspense. She climbed the bank, untied a strand of binder twine and lifted the salt hay. At long last, there were tiny plants coming up everywhere.

It took more than a half-dozen years, but the Joneses finally have a lush green network of flowing hair-like grass mingling with the lacey legumes to complement their dream home. Adding to the beauty, the crownvetch is covered with pink blossoms throughout the summer. ♦

Agricultural production increase in 1968

Agricultural production in 1968 increased 2 to 3 percent, an increase equivalent to the long-term trend, in both developed and less developed areas of the world.

Because of differences in population growth, a gradual increase in output per person is implied in the developed countries but none in the less developed world.

During the past decade, Europe, the USSR, Japan, and Australia have made the largest per capita gains in agricultural output.

World production of grain expanded by about 20 percent in the past 3 years, following a very slow rate of growth during 1961–65. In 1967–68 rice led the advance in grain production, but in 1968–69 (as in 1966–67) wheat made the largest gain. The bulk of the world's wheat is grown in the developed countries, while rice is a primary grain in the less developed areas.

In most of the developed wheat-producing countries, good weather was the major factor accounting for the 1968–69 performance; in Australia, there was a sharp increase in wheat acreage in addition to good weather. ♦

Erosion on federal land

Comparative studies show public and private lands have similar needs

By A. B. Linford and E. C. Nielson

State conservationist and resource specialist, SCS, Bozeman, Mont.

Federally owned rangeland in Montana has similar conservation needs to private land and practices that need to be applied simultaneously on both for effective results. Most of the forest and woodland and the small acreage of cropland in federal ownership are generally adequately treated for conservation. These conclusions are drawn from two comparable inventories of soil and water conservation needs in Montana.

The inventory of federal land was initiated in 1968 at the request of Senator Lee Metcalf of Montana to determine the status of soil erosion and sediment damage occurring on or coming from public land.

Eight agencies report

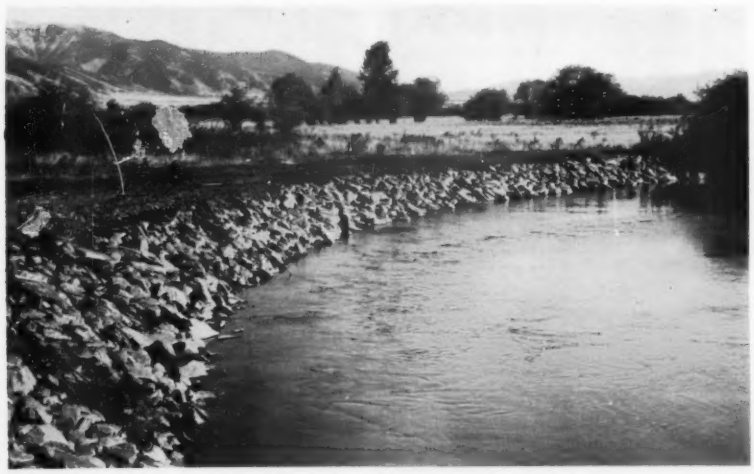
Eight land-management agencies reviewed conditions on the areas under their jurisdiction. The Soil Conservation Service summarized the information and reviewed standards and specifications of the practices used by each agency for the prevention of erosion and sedimentation.

The inventory of privately owned land is part of the National Inventory of Soil and Water Conservation Needs currently being updated by SCS in cooperation with other agencies of the Department of Agriculture. The study of the federal land came at an opportune time to compare land use and treatment needs under the two systems of ownership.

Agencies reporting on land under their administration in Montana are the Forest Service, 16.67 million acres; Bureau of Land Management, 8.23 million acres; Bureau of Indian Affairs, 0.12 million acres; Bureau of Sport Fisheries and Wildlife, 1.12 million acres; Bureau of Reclamation, 0.16 million acres; National Park Service, 1.16 million acres; Agricultural Research Service, 0.01 million acres; and U.S. Army Corps of Engineers, 0.61 million acres. The 28.13 million acres of federal land makes up about 30 percent of the state's land area.

The kinds of treatments needed on federal land closely parallel those needed on private land. The study indicates that federal agencies have adequate standards to meet conservation needs and to protect soil and water resources. Lack of funds to install needed practices limits progress in land treatment.

The Dry Creek Irrigation Company protects a new headgate with riprapping on the East Gallatin River.



Erosion on farmland

Most soil erosion and sedimentation in Montana come from privately owned land used for cropland and associated farming purposes. Montana has 15,020,208 acres of cropland, of which only 31,438 acres is under federal ownership. About 62 percent of the private cropland and 20 percent of federally owned cropland needs conservation treatment.

The most widespread erosion and sedimentation problems are on range and pasture land, which makes up about 60 percent of the state's area —40 percent of the federal and 66 percent of the private land. Conservation treatments are needed in about the same degree on both public and private grazing land, the tabulations indicating 62 percent of federal range and 59 percent of private range needing treatment.

Approximately half of the federal land is forest and woodland, of which only 10 percent needs conservation treatment.

Privately owned woodland and cropland need conservation treatment to about the same degree as pasture and range.

Considering land in all uses, the studies show that about 42 percent of federal land and 60 percent of private land is in need of conservation treatment.

Most of the perennial streamflow in Montana originates on federally managed lands at the higher eleva-

tions. For the most part, stream pollution from sedimentation does not become a serious problem until the waters have reached the privately owned lands adjacent to them.

The Soil Conservation Service estimates that about 80 percent of the stream pollution from sediment and streambank erosion comes from private land and degrading stream channels, and 20 percent originates from federally managed lands.

Adequate streambank protection is one of the most costly features in an erosion-control program. Methods of control must vary to meet the conditions and gradients of the stream. Assistance from state or federal sources is needed to reduce the stream load and keep sediment pollution at an acceptable level. ♦

Land Use and Treatment Needs

Major land use	Federally owned land		Privately owned land[1]	
	Total area Acres	Needing treatment Percent	Total area Acres	Needing treatment Percent
Cropland	31,438	20	14,988,770	62
Pasture and range	11,101,746	62	43,005,290	59
Woodland	14,173,694	10	7,003,910	61
Other	932,065	1	520,210	45
Primitive wilderness	1,892,700			
Total	28,130,720		65,518,180	

[1] Preliminary figures from Conservation Needs Inventory

An irrigation water diversion (above) washes a gully through rangeland. Former irrigated cropland (below) was devastated by a flood in June 1964.

TV station carries three conservation programs

Soil Conservation Service people have three different kinds of conservation programs on one station in Alexandria, La. The station is KALB–TV and reaches more than a million viewers in the central part of the state.

All three programs are designed to reach different audiences. One monthly program, 10 minutes long, is live and is part of a 30-minute afternoon show appealing to women. Another program is live each week at noon. It's designed for a rural audience, although other material is used for people with other interests. While the participants are at the station for the live noon program, a 5-minute tape is made for showing the next day on an early morning 1-hour variety program called "Jambalaya." Another audience sees this program.

About 20 SCS people from the area, plus some state office personnel, take part in the shows. TV people are well pleased and say ratings are good. ♦

Coon dog ponds

Farm ponds are used for many purposes, but SCS soil conservationists have recently added another to their list.

The Washington County Coon and Cat Club in New York has built a pond for use in holding field trials of coon dogs. SCS conservationists assisted with the design.

SCS also assisted in building a pond for the same purpose in the Monmouth County Soil Conservation District of New Jersey. ♦

Naval air station stops forest fires and begins restoration of woodlands

By A. E. Newby
Station forester, Naval Air Station, Lakehurst, N. J.

When officers at the Naval Air Station at Lakehurst, N.J., began a woodland development plan on the base in 1963, fire protection was first on the agenda.

The site of one of the most famous fires of all times—the burning of the dirigible *Hindenburg* in 1937—the woodlands of the area themselves have suffered a half-century of devastating burning.

Increment cores taken from large pines indicate that since 1920 forest fires have been frequent. Large trees have been killed or severely stunted and areas of low twisted sprout pines have stood with hardly any change for 20 or 30 years. Many mature pines have been so badly set back that they haven't produced a cone in a decade.

The station's conservation plan, as a cooperator with the Ocean County Soil Conservation District, covers 3,500 acres of land not occupied by buildings and runways. It has as its objective the rebuilding of the forest into fully stocked stands of pine and oak on the uplands and cedar in the peat swamps.

Woodland improvement began with construction of 5 miles of interior access roads. An additional 45 miles of woodland trails were opened and graded. Culverts were installed, and 17 fire ponds were located through the woodland area. Firebreaks were cleared along the western and northern boundaries of the station and controlled burning carried out near them to reduce the accumulation of fuel.

With the fire protection phase of the plan established, station personnel turned attention to improving existing forest stands. Chemical injectors were used to eliminate less desirable trees on 913 acres that were well stocked. An aerial application of herbicide solved the problem of overtopping hardwoods on an additional 577 acres.

How to convert the areas of stunted pine and scrub oak into stands of desirable trees was also a problem. A set of brush-clearing drums was located nearby, and the owner engaged to prepare the land for direct seeding to pine.

The brush cutter consists of two cylinders 7 feet long by 4 feet in diameter with 12 cutting blades on the surfaces of each. The cylinders can be filled with water to make the cutter weigh about 25,000 pounds. The two rollers are hitched in imperfect tandem so that instead of turning

A shortleaf pine seedling is 18 inches high 18 months after direct seeding. The site was prepared by cutting the brush with heavy drums pulled over the area twice. The bulldozer operator, Wade Calhoun, stands by the equipment with Commander James E. McPhillips, public works officer at the Naval Air Station.

Pure seed are broadcast directly onto the freshly disturbed site where scrub pine had been cut with heavy rollers and mashed into the soil.

freely they roll and slide with shearing and crushing actions on the brush.

Some 300 acres of stunted pine have been treated with the brush cutter. Each area is gone over twice with the second pass usually at right angles to the first. Trees and brush are chopped up and incorporated into the soil. Islands of cover are left at intervals for pheasant, quail, and other wildlife.

In January 1966, the first cleared areas were seeded to pitch and shortleaf pine at the rate of 60,000 seeds per acre broadcast with cyclone-type hand seeders. No attempt was made to cover the seed.

By August 1967, pitch pine seedlings were 10 inches tall and shortleaf pine 17 inches. Pitch pine seeded in March 1967 was 7 inches tall in 6 months.

The success of the first efforts at direct seeding led to the decision to treat all areas of stunted pine in this manner. Plans call for 100 acres a year to be drummed in the spring, followed by a second pass 8 weeks later. Seeding will be done the following January at a rate of 70,000 seeds per acre. The total cost of the treatment is $25 to $35 per acre.

State forestry personnel are watching the young trees on the Naval Air Station with interest, for much state land is covered with stunted fire-damaged pine. Also, an adjoining military base is considering buying brush drums for use on former firing range areas. ♦

Conservation art spurs community interest

The combination of a dedicated district conservationist and a community-spirited art teacher has involved a whole community in southern Idaho in expressing conservation through the art medium.

Started as a trial project in 1962 by the Wood River Soil and Water Conservation District in Shoshone, Idaho, the contest has reached the point where it is affecting nearly all the citizens of the community.

In 1962 when the contest was proposed, Mont Johnson, chairman of the Wood River District, asked Mrs. Robert Gaskill how long she thought it would take to get young people interested in painting.

"About 10 years," replied Mrs. Gaskill. But in the second year, under her leadership, the District Art Committee counted more than 100 paintings when contest time rolled around with all ages represented.

A special prize was awarded in 1964 in the "pee-wee" division. The artist's age? Three years old.

The contest has received statewide publicity for its efforts. In 1966, Louise Shadduck, director of the Idaho Department of Commerce and Development, traveled to Shoshone to make the presentations at the annual awards dinner. She was so taken by some of the work that she purchased one of the paintings from an 11-year-old artist, Jay Gaskill.

What about the effect of the painting contest on the community? Cecil Cope, Shoshone SCS district conservationist, commented on this:

"There are several interesting facets to the art contest. One of these occurs regularly in Mrs. Gaskill's art classes. One painter will ask another, 'which painting is going to be your conservation picture?' 'What's a conservation picture?,' will be the reply. And then an explantion of conservation and what must go into a painting to qualify for the district's contest.

"The contest has also drawn in many nonfarm people as sponsors. In addition to the prizes awarded by the Wood River District, seven or eight local businesses sponsor awards in the farm divisions with prizes ranging from $10 to $35. The offbeat side of art is not forgotten, either. This year there will be a $15 prize for the most unusual painted garbage can.

"It is not overestimating," Cope concluded, "to say that 500 people have learned more about conservation by being involved as parents, relatives, or friends of the artists, and the painters themselves. How many of these 500 have taught conservation through discussions of the artwork with their friends cannot be estimated."

Cecil Cope died a few days after making this statement.

The contest, renamed the Cecil Cope Art Contest, continues to function under the sponsorship of the Wood River District. ♦

Slocomb's master plan for resource development

By Karol Fleming

This article by a reporter for a newspaper in a neighboring town, the "Geneva Reaper," reflects the local recognition of the initiative of the Slocomb community in improving its total environment.

Three years ago the people of Slocomb, Ala., (pop. 1,500) decided that the town had too many good resources that were not fully developed. They formed a Citizens Advisory Council to plan what they needed and to find the best way to get it.

Today, Slocomb has a new water system, well, and tank; a sewage disposal plant and lagoon; drainage channels that will control flooding and reclaim more than 220 acres within the town limits; and a new municipal building, bank building, telephone building, and voting house.

It has a plan for housing which in 7 years should put every family in town in a standard, livable home.

Two farmers' markets for fresh produce have been built, and industry has come to town.

Mayor Lawrence Harris, just beginning his second 4-year term, explains it: "What really happened was that we stopped and took a good look." The Town Council and I decided that as much as we liked Slocomb, we didn't like what it had become.

"We were tired of the town's water tank going dry twice a year. We were sick of raw sewage being dumped near town. We knew we needed industry, and we wanted to do something about the annual flooding of parts of town."

Mayor Harris gives a big share of the credit for Slocomb's progress to the Wiregrass Resource Conservation and Development Project and to the town's attorney, Ralph Paul of Geneva.

"We were lucky," the mayor said. "The Wiregrass RC&D Project was just organizing in a nine-county area in southeast Alabama. In Geneva County, it was under the sponsorship of the Geneva County Soil and Water Conservation District and the county commissioners. SCS District Conservationist Jimmy Holland and RC&D Project Coordinator Cameron Lyle have given us invaluable help in making and carrying out our plans."

Mayor Harris emphasized the part played by the town's attorney. "We were fortunate in that we had a good attorney. With guidance from him we first of all organized the Citizens Advisory Council, a biracial committee, to study our needs."

This Citizens Advisory Council began meeting in October 1966. Since then it has met once a month. Attendance is nearly always 100 percent.

At the organizational meeting of this group in 1966, Attorney Paul explained to the town council and to the advisory group the need for an overall development plan.

Such a plan was made. The citizen's group worked with the Alabama Planning and Industrial Board to produce the master plan. Total cost of the survey was $10,500. Of this amount, the town of Slocomb paid $4,100. The balance was paid by a grant obtained through the Department of Housing and Urban Development.

Satisfaction with their new house shows in the faces of the Joe Murrey family of Slocomb as John Rea (right) explains the Farmers Home Administration loan plan that makes it possible.

Next, an engineering firm was hired to make a plan for the development of a water system, well, tank, and sewage system, and the construction of a municipal building.

The engineers' estimate? $1 million.

Slocomb's citizens didn't see how they could raise that much money. But the town council had already acted to pass two ordinances, one establishing a Municipal Planning Commission and the other setting up modern building and housing codes. These ordinances, along with other required conditions, made the town eligible to receive federal aid, including additional help from the Department of Housing and Urban Development. A loan for $514,000 was approved, and with this money the town started to work.

The town's master plan called for a water well first. It was so badly needed that often one neighbor had to ask another to turn off his water so he could get enough to "make the baby's formula." With the well came a 250,000-gallon storage tank and a water system for the whole town. The water system is now complete and in operation.

Municipal departments have moved into a new building, and a sewage lagoon is completed and in service. Collection pipes for the system are in service. Other parts will be added as funds are available.

While the sewer system was being installed, it became evident that something had to be done to correct flooding that affected about 30 percent of the area within the town limits in wet weather.

The flood problem in Slocomb was given top priority by the RC&D Steering Committee. Slocomb people obtained permits and easements for channels to drain the land and control the flooding. The Soil Conservation Service planned the needed stream channel improvements. The town of Slocomb let the contract for the work, using funds provided by the RC&D project. Construction is now complete, and the town is already reaping the benefits.

The new channels, when complete, will control floods, move out stagnant water, eliminate mosquito- and fly-breeding places, and will reclaim valuable residential and commercial property.

With water control a reality, the town council and the advisory council set out to map a plan to upgrade housing, add new homes, and destroy old dilapidated houses. Their goal is to provide standard housing for every family in town within 7 years.

Part of the plan calls for assistance to individuals who are eligible for financial aid through the Federal Housing Administration or Veterans Administration. Other individuals will be helped to get loans from the Farmers Home Administration.

Low-income families will have space in low-rent housing. Fourteen low-rent housing units have already been completed, and approval for 20 more has been granted.

Businessmen saw that the business section of town needed cleaning up, too.

The Slocomb National Bank built a new $100,000 building. General Telephone was encouraged to construct a $30,000 equipment storage building. Geneva County was deeded property in the downtown area on which to build a town voting house.

A garment factory was brought to town but closed after a year's operation. The factory has since been sold to another firm that is expected to reopen within a few weeks. The new company will employ about 75 women.

The farmers in Slocomb commu-

Below, the Slocomb flood-control channel is under construction as Jimmy Chaffin, SCS engineering technician, and Richard Keith, SCS project engineer, check specifications. Above, Geneva County Growers, Inc., built the first farmers' market in Alabama under the Farmers Market Authority. Hulon Tew of the growers organization (left) discusses their promotion plans with Robert Reynolds, Geneva Extension chairman. Below, Mayor Lawrence Harris signs the agreement for the first RC&D-funded project measure. Looking on are Ralph Paul (left), town attorney, and James E. Holland, SCS district conservationist.

nity needed a market for their produce. They organized as the Geneva County Growers and took advantage of the services of the newly created State Marketing Authority Board.

The Authority built, at a cost of $80,000, a facility to handle pink tomatoes, watermelons, and peas. In the first year of operation, total volume of the market was $500,000. The second year volume reached $600,000 for tomatoes and $200,000 for watermelons and peas.

Then these farmers banded together to build a green tomato market. Under an organization called Slocomb Growers, Inc., they borrowed money from the Slocomb National Bank and raised additional funds among their own members to build a $30,000 market. The first summer they handled $150,000 worth of green tomatoes.

Slocomb has solved a lot of its problems, but Mayor Harris says a lot more need correcting.

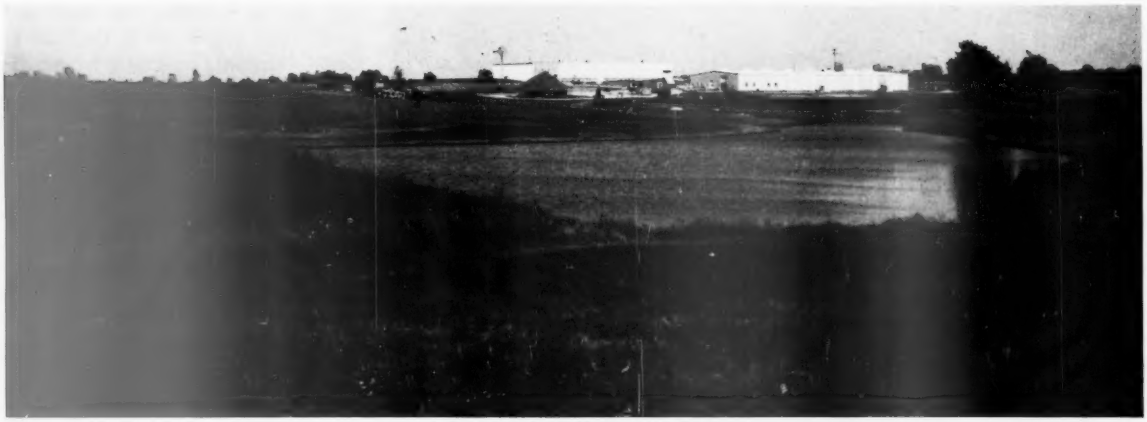
"We're working with RC&D and some SCS help now to develop recreation for our town," the mayor said.

"Our city dump is an eyesore and a health hazard. On the advice of the RC&D project leaders, we've asked the State Department of Public Health for assistance in designing and recommending methods of constructing a sanitary fill," Mayor Harris said.

And the mayor of Slocomb is well aware that Slocomb has other problems yet to be solved. "But," says the mayor, "We feel that half the battle is won in that our Citizens Advisory Council and the town council are alert to the needs of our town. As problems arise we know that there is a place to go get help."

Mayor Harris and his town council are fully aware that the Wiregrass RC&D Project is not a source for all of the funds needed.

But they have found it to be a stockpile of experts ready to give advice in planning and carrying out programs to fully develop the community's natural resources for the benefit of the people. ♦



Agricultural Hall of Fame a conservation showcase

By F. DeWitt Abbott

State resource conservationist, SCS, Salina, Kans.

The Agricultural Hall of Fame and National Center, Bonner Springs, Kans., with its 275 acres under conservation land use and treatment, will provide visitors with an opportunity to view firsthand and at close range conservation practices on the land.

It is not unusual for more than 1,500 people to visit the center on summer weekends. Many of these people are from nearby cities, and many are from all over the United States.

Conservation is being featured on the land for several reasons: The land needs conservation treatment. Conservation fits in with the nonprofit Agriculture Center's aim to exhibit the past, present, and future of agriculture and agribusiness, as provided in its Congressional charter, and it will give thousands of people a chance to observe conservation work.

With technical help from the Soil Conservation Service through the Wyandotte Soil Conservation District, the board of directors of the center has developed a conservation plan for the acreage involving a wide variety of conservation practices and treatments.

Some of the conservation work includes healing gullies with grassed waterways; building a multipurpose dam near the main exhibit hall to function as a small flood-detention and grade-stabilizing structure, a 2-acre pond for providing stockwater, a diversion channel to bring storm runoff into the pond, and an access highway; and reserving a 114-acre smooth brome meadow for planned exhibit buildings.

Forty-five acres of cropland with waterways and graded parallel terraces will be used to grow adapted crops, such as corn, sorghum, soy-

BEFORE AND AFTER . . .
The 2-acre multipurpose reservoir at the Agriculture Center (above) is a result of applied conservation measures. Before the dam was built, the area was a deep wooded gully (below) with smaller gullies scarring the fields above it. The grassed waterway (at right) replaces a gully that was almost deep enough to hide SCS Conservationist Roger Coleman.

beans, wheat, and alfalfa-grass in rotation and on the contour.

A few head of domestic livestock will be kept on 24 acres of brome pasture where gullies will be smoothed and seeded, grazing regulated, land fertilized, and a field border of multiflora rose planted.

Other plans call for 12 acres of rangeland to have brush control, range seeding, and a grade-stabilizing structure; 27 acres to be in smooth brome for hay; a wooded area of 28 acres to have hiking trails, woodland management, and evergreens; trees and shrubs along the trails labeled; and a pond in a 22-acre wildlife area rebuilt by deepening and reshaping the edges. It and the multipurpose pond will add to the scenic beauty of the Agriculture Center's grounds.

Also an acre below the wildlife dam will be planted to trees and shrubs for wildlife habitat; 2 to 5 acres will be kept in grass for nesting cover; a three-row windbreak will be planted near residential buildings; and several other measures applied for the encouragement of wildlife throughout the property.

The Agriculture Center directors are determined to set up an outstanding demonstration of conservation of soil and water. They realize how important it is to remind all who come that way of the need for land protection and wise use for a permanent and productive agriculture and national economy. ♦

Contour farming and beauty

Contour farming has long become a hallmark of soil conservation, a symbol of good husbandry, a creator of natural beauty, and a protector of the earth's great bounty.

Terraces and stripcropping on the contour are now an accepted technique for managing water that runs off farms and field. It is a way of intercepting surface water which, uncontrolled, would erode away hillsides and send fertile soil down streams and rivers in times of floods.

Alternate strips of grain and grass following the contours of the landscape are subjects for the artist's canvas and at the same time protectors of the Nation's basic resource—protectors against soil erosion that robs land of its productivity, pollutes our streams with mud, and shortens the useful life of our reservoirs. ♦

Fishponds on the increase

While commercial fresh water fisheries in lakes and rivers have been declining during recent years, well-managed fishponds have been increasing.

Arkansas has been the national leader in this enterprise, particularly where several varieties of catfish are concerned. Other states with a significant amount of fish farming include Missouri, Kansas, Texas, Oklahoma, Mississippi, Alabama, Georgia, and the Carolinas.

Two major factors are helping to expand fish farming. The first factor is associated with the quality of fish produced, which tempts the palate of rural and urban people. Second, the cash returns from fish farming appeal to the farmer in his continuing quest for economic betterment. ♦

Delta town uses RC&D aid to beautify bayou

The bayou is very much a part of the life of the people of Inverness, Miss. When the Southeast Delta Resource Conservation and Development Project came into being, Inverness citizens saw in it an opportunity to advance their community efforts to beautify the bayou.

Like many delta towns, Inverness settled beside the bayou and used it for travel and transportation of goods. But, as elsewhere, when steamboats gave way to railroads the bayou grew up in weeds.

The beautification project at Inverness was started in 1948 as a memorial to those who served their country in World War II. The bayou was cleared of brush and its banks planted to grass. A magnolia tree was planted for each son who gave his life for his country.

Flowers were planted at the street intersection. A small dam was installed to maintain a constant water level in the bayou. There are benches where residents rest, feed the squirrels or ducks, or just relax and enjoy the surroundings.

The Inverness residents are proud of their accomplishments. As Mrs. W. A. Price, president of the Garden Club, says: "We started with what we had and tried to do something for our town."

This cleanup job has been the cooperative effort of city officials, civic clubs, garden clubs, and property owners—all determined not to let their bayou become an eyesore and community liability. But, in the words of Mayor J. R. Bradley, they are "more concerned with what is possible in the future."

So the town submitted project proposals through the Sunflower County Soil Conservation District to the Southeast Delta RC&D Project to help clear up more of the bayou and to put in a sanitary area for garbage disposal.

These and other community improvement measures have been included in an RC&D project measure which has been approved by the RC&D steering committee. The Mississippi Highway Department and other state and federal agencies are assisting in carrying out the coordinated plan of beautification.

The highway department is already developing plans to beautify areas along Highway 49 West through town. Another half-mile of the bayou has been cleared and is ready for planting.

Inverness is making full use of its bayou as a reminder of its colorful and historic past.—C. H. WHITTINGTON, *RC&D project coordinator, SCS, Greenwood, Miss.* ♦

A planting of shrubs and flowers made by the Inverness garden club at a street intersection graces the banks of the bayou. Below, at left is a typical section of the unimproved bayou included in the RC&D project measure for beautification; at right, a part of the memorial park established by local organizations.

Land reshaping and big machines shake up the cherry business

By Guy E. Springer and Lavern C. Watson

District conservationist and area engineer, SCS, Traverse City, Mich.

A smooth moderate slope supports a young cherry orchard that is practical for mechanical tillage and harvest after reshaping of the steep irregular terrain. The lower photograph was made in 1958, the upper in 1968.

Mechanization has begun to shake the cherry business in northwest Michigan. New $12,000 machines now harvest the cherries that were once picked by nimble fingered people. A canvas funnel under the trees catches the ripe fruit as it falls, shaken out by a motor-driven arm.

Progress is not without its problems, however. Orchardists in the Grand Traverse Bay area planted many of their productive orchards 8 to 10 years ago on slopes steeper than 12 percent. These steep and irregular fields were no problem for ladders and people, but mechanical pickers and other high-priced machinery don't work too well in the close spacing and short turns.

No alternative

Land reshaping is solving the problem and bringing other benefits as a bonus. Growers are cutting and filling slopes of up to 30 percent in steepness, following designs prepared by the Soil Conservation Service assisting the Grand Traverse Soil Conservation District.

The cost may be as much as $200 an acre, and production for 10 years is sacrificed while the new orchard grows to maturity. But there seems to be no alternative; orchardists can't buy additional land nearby. Reshaping pays in the long run, however, because it solves several problems at the same time.

Erosion must be controlled on reshaped fields, and attention to air drainage is necessary. Conservation technicians survey air channels where necessary and design and stake the waterways when they lay out the fields for reshaping. The earthmoving contractor then does the whole remodeling job at one time.

Then the land must be covered. Disturbed areas are chiseled or subsoiled 16 inches deep in furrows 6 to 8 feet apart. Soil tests tell the owner what fertilizer or amendments are needed to establish a good stand of grass. Waterways are shaped and seeded and the whole field planted to an adapted grass along with a nurse crop. If thinly clad areas show up later, they are reseeded, mulched, and fertilized.

Trees are planted as soon as erosion is under control. Subsoiling continues, usually after each rain. Weeds and grass in the tree rows are controlled with chemicals.

Difficulties and advantages

Still other difficulties may arise from reshaping, even after the trees begin to grow. Grading sometimes exposes subsoils that have a high calcium carbonate content, and the surface becomes platy. This reduces in-

The mechanical cherry picker shakes the fruit onto a canvas that funnels the cherries onto a conveyor.

filtration of water and aeration of the soil. As trees begin to mature, deficiencies of minor elements may appear as a result of the high calcium carbonate content of the soil. Trees on deep cut areas may tend to wilt during prolonged drought. Usually these problems can be overcome by good soil management.

The advantages of land shaping more than outweigh problems, however. Reducing slopes to 12 percent or less with smooth curves makes machine work easier and more economical. And improved air drainage results in proper blossoming and disease control.

Neighbors in some communities are pooling their efforts and cutting air channels through woodlands, across steep ridges, or into old orchards. Flowing air pushes the frost line deeper into the depressions. One orchardist reclaimed 35 acres of frost-affected land by buying 2 acres of old orchard and cutting a 100-foot-wide channel through it. He lowered the frost line 15 feet vertically into a low area.

Orchardists in Michigan's Traverse Bay area are keeping pace with the changing times by applying new techniques, skills, management, and equipment. Land reshaping, erosion control, and air drainage practices are a part of these new skills. ◆

Texas community uses bond issue funds to speed up watershed planning

By W. L. Smith

Conservation agronomist, SCS, Temple, Tex.

G. F. Wimberly and his neighbors were impatient to start planning the East Keechi Watershed Project in Texas—impatient enough to pay for it themselves.

In 1958, they stepped out of the waiting line for federal SCS watershed planning assistance and voted a bond issue to pay with local funds the estimated cost of an SCS planning party. By 1967, the last of 10 flood-prevention dams was completed, but, according to Wimberly, it wasn't as easy as it sounds.

"In April 1957, we had an unusually heavy rain and East Keechi flooded over 4,000 acres of bottom land," Wimberly says. "Around $65,000 of damage was done to farmland, roads, buildings, and fences. This really got us to thinking about a flood-prevention project."

With this flood and 23 other major ones since 1926 still fresh in their minds, Wimberly and his neighbors went to work. A hearing with representatives of the Texas Water Commission registered great interest and need for the project and a water control and improvement district was approved. The district was organized and became the East Keechi Water Control and Improvement District No. 1. The East Keechi watershed

Heavy damage, caused by flooding in April 1957, made citizens anxious to start a flood-prevention project.

G. F. Wimberly, remembering past floods, discovers the fruits of his labor as he looks at floodwaters held by a flood-prevention dam.

covers about 100 square miles in Palo Pinto, Jack, and Parker counties.

"We found after the district was organized that it would be several years before we could obtain a work plan from the Soil Conservation Service because of the backlog of watershed applications ahead of us, unless we paid for the planning," Wimberly said. "We then decided to put the proposition to a vote by the landowners."

An election was held March 1, 1958, for the landowners to vote on two propositions:

(1) For the issuance of bonds and the levying of a tax in payment thereof. The proceeds of the bond issue were to be used to pay the estimated cost of an SCS planning party.

(2) For a maintenance tax to be levied for the repair and maintenance of the works of improvement.

Both propositions carried by a 2 to 1 majority.

After the bond issue was voted, the work plan was developed, and in 1960 the water control district signed a work plan agreement with SCS. The district paid for the development of the plan, furnished easements and rights-of-way, and administered the construction contracts.

Construction was started in 1963, and the last structure was completed in 1967. The 10 structures will retard 13,496 acre-feet of water, enough to reduce flood damages by 79 percent.

The earthen dams, spillways, and dikes of the structures were planted to coastal bermudagrass, King Ranch bluestem, and sideoats grama to protect the slopes from erosion. All sites were fenced to facilitate management of the grass.

The East Keechi Water Control and Improvement District No. 1 now has full operation and maintenance responsibility for the project. Their representatives inspect the sites after each storm, or annually, to determine maintenance needs. ♦

States and territories directly help conservation districts

The 50 states and Puerto Rico and the Virgin Islands have appropriated a total of $31,686,016 for the fiscal year 1969 participation in the soil conservation district programs. Some of these appropriations are: $4,867,389 for direct assistance to soil conservation districts; $15,752,989 for investigations and planning and works of improvement in the watershed program. ♦

Research grant to aid microclimate studies

Studies of the moisture balance and aerodynamic characteristics of microclimates surrounding vegetative surfaces will be made by Israeli scientists of the Volcani Institute of Agricultural Research under a 3-year grant of about $62,329 awarded by the U.S. Department of Agriculture.

Purpose of this work is to obtain a comprehensive set of reliable measurements which can be computerized to evaluate land use.

The Israelis will make 24-hour measurements with mobile instruments at selected sites five or six times during a given season. Data will be obtained on such enviromental factors as heat transfer by wind, aerodynamic turbulence, and radiation from sun, sky, and plants.

The data will be analyzed to determine management practices that will make the most efficient use of radiant energy and of moisture in relation to various surface conditions.

This grant will be paid for with currency obtained by the United States through sales of farm products to Israel. ♦

Small watersheds

The work in subwatersheds of the 11 authorized river basin flood-control projects and the pilot watershed projects of SCS has been successful not only because of its flood-prevention and watershed protection benefits. It has shown how to handle floodwaters on small watersheds effectively and at low cost. It has served as a training ground for technical personnel. It has served as a proving ground for techniques being applied in the Public Law 566 program.

Trespass laws for farmers

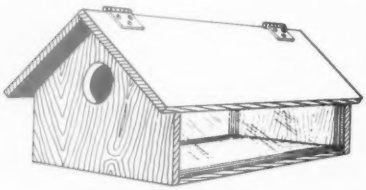
Today's farmer has more legal backing in the control of trespass than he had 40 years ago. Laws are more restrictive on the sportsman and are more widely publicized. Enforcement of trespass laws is much improved. ♦

Choose the birds you want to feed

We can attract and support selected kinds of birds around our homes by using interesting combinations of choice foods in different kinds of feeders—whether we live on farms, ranches, or in suburbia.

Two examples illustrate the point.

A gable-type house feeder, with 1-½-inch entrance holes at each end, permits the feeding of hole-nesting birds, excluding all of the species that are unaccustomed to entering bird-

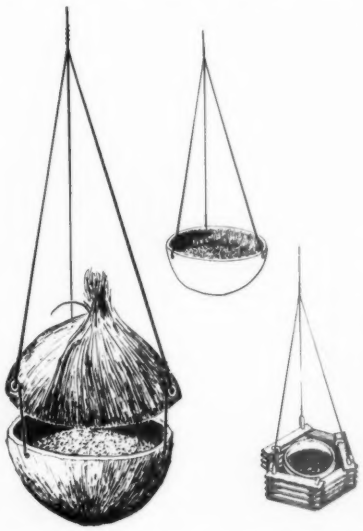


houses or holes in trees or posts. The one illustrated is used exclusively by bluebirds when we feed small fruits, raisins, or dried currants.

The sides of the feeder are glass, so we can watch the birds feeding. The expense of these fruits is not great for a few bluebirds; but flocks of robins and other fruit eaters would consume large amounts. Further, mockingbirds usually drive bluebirds away from fruits that are fed in the open, or grow on shrubs and trees, but they do not guard the house-type feeder.

When we change the food to sunflower seeds, peanut butter, or nut meats, chickadees, nuthatches, and titmice feed there eagerly, but bluebirds do not like such foods. So if you want both types of birds, feed them in separate feeders of the same design. If you live in western states where house finches are numerous and fond of sunflower seeds, you can keep them out of the feeder by making the holes smaller—1¼-inch diameter.

Swinging feeders, as illustrated, attract cardinals, finches, chickadees, nuthatches, titmice, mockingbirds, tanagers, and thrashers to sunflower seeds, peanut butter, and other foods that each one likes. Only an occa-



sional house sparrow or jay ventures to use these free-swinging and quick-turning feeders—which is a relief to anyone who tires of feeding such species.—VERNE E. DAVISON, *regional biologist, SCS, Portland, Oreg.* ♦

Illustrations from *Attracting Birds; From the Prairies to the Atlantic,* by permission of the publisher, Thomas Y. Crowell Company.

Pesticide buildup in soil varies

Analyses of thousands of soil samples from all parts of the country during the past 4 years show that the rate of breakdown and disappearance of agricultural chemicals in soil varies, reports Dr. Paul F. Sand of USDA's Agricultural Research Service.

An expanded soil monitoring program was initiated in 1968 to get information on residues in soil from cropland and noncropland areas in the United States. In cooperation with other government agencies and landowners, a plan has been developed to sample some 15,000 sites throughout the United States. A pesticide history will be obtained for each site so scientists will know what has been put on the soil.

"Soils in many orchards contain more pesticide residues than soils used to grow vegetables, cotton, corn, or forests," Dr. Sand said. "Residues in orchard soils consist mainly of the more persistent chlorinated hydrocarbon insecticides. These residues are not absorbed by the fruit trees. If such orchards are taken out of production, caution must be used in selecting crops to be planted in these soils.

"We tested for two herbicides, 2,4-D and trifluralin, widely used to control weeds," Dr. Sand reported, "and we could find only traces of 2,4-D in a few soil samples. Trifluralin, at very low concentrations, was found in some soybean and cotton soils.

"Of the insecticides, we found DDT and its isomers in most crop areas and in some forest areas. Based on 3 years of study, where DDT was not used during the year, the residues decreased." ♦

Humid East needs to conserve water

In the humid East, an apparent abundance of water led to complacency until recently when two factors created concern over the water supply. First, the periods of drought from 1961 to 1966 in the Northeast affected crop production and depleted the surface and ground-water supplies.

Second, attention was called to the rapid increases in the rates of pollution of these waters resulting from increased urban and industrial expansion. As a result, there is an increasing awareness of the need for conserving both the quantity and quality of the Nation's water supplies. ♦

Meetings...

Audubon Society to discuss man and nature

Man and Nature in Mid-America" will open a discussion of national conservation issues at the 64th National Audubon Convention to be held April 25–29 in St. Louis, Mo. The new president, Dr. Elvis J. Starr, will address the group.

A major attraction on the opening day will be a program explaining new approaches to environmental education for big-city children. Other sessions will be devoted to reports on endangered species of wildlife, state programs for nongame wildlife, and the progress of the fight against the use of DDT and other long-lasting pesticides.

The convention is timed to coincide with the spring bird migration along the Mississippi flyway, and there will be field trips to wildlife refuges and other points of interest to conservationists.

Academy of Sciences concentrates on urban problems

The annual meeting of the National Academy of Sciences in Washington, D.C., April 28–30, will be open to the public.

Among the several symposiums is one on urban problems on April 30 under the chairmanship of William Gorham of the Urban Institute in Washington.

Congress on Irrigation and Drainage meets in Mexico

The Seventh International Congress on Irrigation and Drainage will take place in Mexico City under the auspices of Gustavo Diaz Ordaz, President of Mexico, April 9–20. The Congress will be followed by three simultaneous technical tours, each lasting 5 days.

Four subjects will be studied during the Congress: (1) Water requirements of crops; (2) hydraulic structures on small channels; (3) methods and economics of operation and maintenance of drainage systems in agricultural areas; and (4) development of irrigable lands on a new irrigation scheme or irrigation project.

The International Congress on Irrigation and Drainage is composed of members from 58 countries.

Planning officials hold short courses

Themes as diverse as the many contemporary challenges to planners will engage the 1969 American Society of Planning Officials' National Planning Conference, April 19–24, in Cincinnati, Ohio.

Discussions will consider the interplay of competing social and environmental values; the new balance of planning power emerging among levels of government and involving new forms of citizen participation; and the development of sharper tools for planning.

As a new element in the conference format, there will be four "short courses," each a series of sessions, probing one subject and running throughout the conference. The subjects are land use regulations; social planning; new federal legislation; and planning-program-budgeting systems.

Dates and places

April 9–20, International Congress on Irrigation and Drainage, Mexico City, Mexico.

19–24, American Society of Planning Officials, Cincinnati, Ohio.

22–23, American Forest Products Industries, San Francisco, Calif.

23–24, Industrial Forestry Association, Portland, Oreg.

25–29, National Audubon Society, St. Louis, Mo.

28–30, National Academy of Sciences, Washington, D. C.

28–May 2, League of Women Voters, Council Meeting, Washington, D. C.

28–May 2, American Institute, New Orelans, La.

30–May 1, International Land, Pasture, and Range Judging Contest, Oklahoma City, Okla.

May

1–2, Southern Forestry Conference, Hot Springs, Ark.

1–2, American Concrete Pipe Association, Technical Conference, Denver, Colo.

4–7, Association of American State Geologists, Tucson, Ariz.

8–14, National Council of State Garden Clubs, Inc., Dallas, Tex.

11–14, National Forest Products Association, Washington, D. C.

11–18, Soil Stewardship Week

13–16, National Rivers and Harbors Congress, Washington, D. C.

18–23, Urban Land Institute, Miami, Flordia.

19–22, American Water Works Association, San Diego, Calif. ♦

Outdoor recreation

USDA estimates that outdoor recreation to be provided in 124 watershed projects developed by local communities in 33 states with assistance of the Department will attract more than 10 million users a year.

Facilities for swimming, boating, water skiing, picnicking, hiking, and other outdoor recreation will be combined with other purposes in and around 145 lakes being built as part of these projects. Other purposes include flood prevention, agricultural water management, rural and municipal water supply, low-flow augmentation, and fish and wildlife development.

More than 60 percent of the lakes will provide between 100 and 1,750 surface acres of water.

The estimated cost of the 145 recreation developments will be $31.2 million in federal money and $40.8 million from local sources. ♦

Lowlands occupied by communities

As towns grow and as rural areas are settled, they often wake up to find that overnight they have lost precious reaches of land along valley bottoms. Sometimes it is a subdivision which cuts up a tree-bordered channel. More often it is scattered houses or industrial plants which take over the lowlands. ♦

Review

Urban and Rural America: Policies for Future Growth. 1968. *Advisory Commission on Intergovernmental Relations. Washington, D. C. 186 pp. $1.25.*

The Advisory Commission on Intergovernmental Relations is charged by law to give continuing attention to problems that affect cooperation among the different levels of government. Such a subject concerns recent trends in the geographic location of urbanization and economic development in the United States.

In this report, the commission examines urbanization trends with special reference to the problems of those areas adversely affected by these developments.

"To describe the United States as an urban Nation is to state the obvious," says the commission. And urbanization, it points out, involves tremendous changes in rural America. The heavy outmigration from the farms is well known. Not so well understood is the connection between the decline of rural areas and the problems of congestion and deterioration in the cities.

The policy implication of this report seems to be that the various levels of government and the private sector should consider the desirability of trying to slow the growth of metropolitan complexes by attracting more economic activity to rural areas and to small cities and towns.

The commission recommends measures for influencing industrial location and population movement, for encouraging and guiding new community and other large-scale development, and for equipping state and local governments to deal with urban growth. It urges:

(1) Development of a national policy to deal with urban growth.

(2) A re-examination of multistate regional planning areas and agencies.

(3) A new and expanding role for state governments through the development of state urban development plans.

Collaboration with the private sector of the national economy is, of course, essential.

The report is an excellent reference for those concerned about community development.—NORMAN A. BERG, *associate administrator, SCS.*

The Role of Potassium in Agriculture. EDITED BY V. J. KILMER, S. E. YOUNTS, AND N. C. BRADY. *1968. American Society of Agronomy, Crop Science Society of America, and Soil Science Society of America. Madison, Wis. 109 pp., illus. $7.50.*

This book consists of a set of 22 papers by 27 authorities, presented at a symposium sponsored by the publishers, the Tennessee Valley Authority and the American Potash Institute. The editors say that it is directed to extension workers, farm managers, college and high school teachers, and many others with interests in potassium and its use in fertilizer.

The papers cover a wide range of topics relative to the mining and use of the world's potassium resources. The reader who has been out of school for a few years is apt to find many of the papers difficult or unintelligible. The language is technical, and few of us understand all the technical terms in such a wide array of disciplines. Nevertheless, even though few can follow all of the discussions, nearly all will find much of interest and value.—GUY D. SMITH, *director, Soil Survey Investigation Division, SCS.*

"The nicest people visit me!" KAB-7

The Last Landscape. BY WILLIAM H. WHYTE. *1968. Doubleday & Company, Inc. New York. 378 pp. $6.95.*

At a time when most front-line observers of metropolitan growth look to the future with despair, William H. Whyte develops a thesis of optimism. He believes that future metropolitan landscapes could look better for the same reason many observers think they will look worse—because more people will be living in them.

His optimism is based on a faith in public outrage, that people will get mad enough to defend our vital open spaces from ultimate desecration when they see haphazard development threatening the last of our landscapes.

This faith is tempered by a frank appraisal of what has been accomplished thus far by legal devices, long-range planning, new towns, and other attempts to preserve open space and improve developed space. The book maintains a realistic outlook, emphasizing that, "land-use decisions must be made now," in the midst of political and economic pressures and that future metropolitan growth is being shaped by these immediate decisions.

"We are going to have to work with a much tighter pattern of spaces and development, and our environment may be the better for it," Whyte suggests. To accomplish this, he advocates building clustered developments with interspersed open spaces and using natural resource patterns (hills, valleys, and drainageways) to preserve and link open spaces where people would most commonly see and use them.

He admits there is a population

problem, but, he says, "It is forcing us to do out of necessity what we would not do earlier. For years we wasted land with impunity. Now we no longer can."—DUANE BALTZ, *Information Division, SCS, Washington, D.C.*

Providing Quality Environment in Our Communities. EDITED BY WARD W. KONKLE. *1968. Graduate School Press, USDA. Washington, D. C. 150 pp. $5.25; cloth $3.00.*

In 1965 and again in 1967 the Graduate School of the U.S. Department of Agriculture focused attention on the growing problems of man's environment through its public lecture series.

The considered statements of distinguished authorities and the responses of "reactors" presented in the two symposiums undoubtedly helped arouse the concern of government agency people dealing with these matters.

The book, *Providing Quality Environment in Our Communities*, is the record of the lectures and discussions of the second symposium.

The principal topics and speakers were: "Cities for Man," by Kenneth B. Clark, professor of psychology of the City College of New York; "Rural Communities," by Philip H. Hoff, then governor of Vermont; "Balance of Nature," by Barry Commoner, chairman of the Botany Department of Washington University, St. Louis; "Of Urban and Rural Forces," by C. A. Doxiadis, president of an urban planning firm in Washington, D.C.; and "Rural Renaissance," by Orville L. Freeman, then Secretary of Agriculture.

Each of the lectures is an especially concise summary of the contributions of the speaker to the thinking on the subject.—B.O.

New publications

Even-Aged Silviculture for Upland Central Hardwoods. BY BENJAMIN A. ROACH AND SAMUEL F. GINGRICH. *1968. USDA Agr. Hbk. 355. 39 pp., illus. $0.50.* A guide to silvicultural research on upland hardwoods in the eastern and midwestern states. This handbook brings together the results of more than 20 years of research and experience, both public and private, in the culture of upland hardwood stands and is an elaboration and expansion of the "Timber Management Guide for Upland Central Hardwoods" issued in December 1962 and revised through 1965.

Compilation of Statutes Relating to Soil Conservation, Acreage Diversion, Marketing Quotas and Allotments, Wheat Certificates, Commodity Credit Corporation, Price Support, Export and Surplus Removal, Public Law 480, Crop Insurance, Sugar Payments and Quotas, Marketing Agreements and Orders, School Lunch, Child Nutrition, Food Stamp, and Related Statutes as of January 1, 1969. *1969. USDA Agr. Hbk. 361. 384 pp. $1.50* Compiled under the direction of the General Counsel.

Common Aquatic Weeds. BY L. W. WELDON AND R. D. BLACKBURN. *1969 USDA Agr. Hbk. 352. 43 pp., illus. $0.50.* Compiled to serve as a basis for the identification of the more common aquatic plants, classified in five groups: Free-floating plants, aquatic grasses, emersed plants, submersed plants, and algae.

Response of Ironweed and Buckbrush to Herbicides and to Herbicides in Combinations With Mowing, Nitrogen Fertilizer, and Surfactants. BY ELROY J. PETERS AND J. F. STRITZKE. *1969. USDA Tech. Bull. 1400. 16 pp., illus. $0.15.* Current status of research on the control of ironweed and buckbrush.

Handbook of Agricultural Charts 1968. *1968. USDA Agr. Hbk. 359. 48 pp. $0.65.* Updated catalog of charts available from the Department of Agriculture with tables of data.

Color Filmstrips and Slide Sets of the United States Department of Agriculture. *1968. USDA Misc. Publ. 1107. 13 pp.* Supersedes Agriculture Handbook 222 on the same subject.

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Rogers Lake scores as a recreation enterprise

Before expanding his farm pond into an income-producing recreation area, Walter Rogers, Anadarko, Okla., took time to get used to having paying visitors on the farm.

He started his Rogers' Lake business slowly. Now it is a thriving family enterprise providing a place to swim, fish, and picnic for all ages.

Rogers got into the outdoor recreation business as a sideline to his livestock operations when, with technical assistance from SCS and cost sharing from the Agricultural Stabilization and Conservation Service, he built a farm pond for livestock water in 1958. For the first 3 years only a few people came to the pond and paid the access fee.

Rogers says the business began to grow when a soft drink company offered to put up signs to advertise his recreation area. Before, all the advertising was by word of mouth. After the signs were up, attendance went as high as 500 people one weekend. During this time, he installed dressing rooms, restrooms, picnic tables, and rafts made of oil barrels fastened together.

"Our recreation development has worked out well," Rogers says, and he feels his 3-acre lake fills a definite need for outdoor recreation in his community. "The people seem to enjoy our smaller place over some of the larger lakes," Rogers says.—ANTHONY P. OTTINGER, *district conservationist, SCS, Anadarko, Okla.* ◆

Recreation facilities offered by Rogers Lake (above). Larry Edwards (right, below) gets information on access fee from Mrs. Walter Rogers.

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